

REMARKS

Entry of the foregoing and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.111 and in light of the remarks which follow, are respectfully requested.

By the above amendments, the specification has been amended to correct a typographical error. Claim 1 has been amended to recite that said polyamine compound is obtained by causing a polyamine compound (I) having a primary and/or secondary amino group to react with a compound (II) represented by the formula (1), wherein R¹ represents a hydrocarbon group of 4 - 30 carbon atoms, and X¹ represents glycidyl ether, epoxy, isocyanate, (meth)acrylate, or halogenated alkyl, and wherein the compound (II) forms the side chain of the polyamine compound. Support for such amendment can be found in the instant specification at least at page 13, line 13 to page 15, line 12, taken in connection with page 11, lines 3-5. Claims 1-5, 7 and 8 have been amended for readability and/or clarification purposes.

Newly added claims 13-15 depend from claim 1. Support for new claim 13 can be found in the instant specification at least at page 14, lines 13-30. Support for new claim 14 can be found at least at page 4, lines 1-9, and support for new claim 15 can be found at least at page 4, lines 17-24.

In the Official Action, claims 1-12 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,650,522 (*Teraji et al.*). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Independent claim 1 recites an additive for a hydraulic material which comprises a polyamine compound comprising a hydrocarbon group of 4 - 30 carbon atoms as a side chain, wherein said polyamine compound is obtained by causing a

polyamine compound (I) having a primary and/or secondary amino group to react with a compound (II) represented by the following formula (1):



wherein R^1 represents a hydrocarbon group of 4 - 30 carbon atoms, and X^1 represents glycidyl ether, epoxy, isocyanate, (meth)acrylate, or halogenated alkyl, wherein the compound (II) forms the side chain of the polyamine compound.

It is well established that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). For an anticipation to exist, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

In the present case, *Teraji et al* does not disclose each feature recited in independent claim 1, and as such fails to constitute an anticipation of such claim. For example, *Teraji et al* does not disclose a polyamine compound obtained by causing a polyamine compound (I) having a primary and/or secondary amino group to react with a compound (II) represented by the formula (1), wherein R^1 represents a hydrocarbon group of 4 - 30 carbon atoms, and X^1 represents glycidyl ether, epoxy, isocyanate, (meth)acrylate, or halogenated alkyl, and wherein the compound (II) forms the side chain of the polyamine compound.

In this regard, the Patent Office has relied on Example 3 disclosed at column 6 of *Teraji et al*, noting that the poly(2,3-dicarboxypropyl)polyethyleneimine has the structure shown at page 3 of the Official Action. However, the side chain of such compound, $-\text{CH}_2-\text{CH}(\text{COOH})-\text{CH}_2-\text{COOH}$, does not correspond to the recited side

chain which is formed from the compound (II) represented by the formula (1), $R^1 - X^1$, wherein R^1 represents a hydrocarbon group of 4 - 30 carbon atoms, and X^1 represents glycidyl ether, epoxy, isocyanate, (meth)acrylate or halogenated alkyl.

The Patent Office has also relied on Example 26 at column 9 of *Teraji et al*, for disclosing the preparation of poly(2-carboxyethyl)-poly(2-hydroxyethyl)polyethyleneimine. See Official Action at page 3. The 2-carboxyethyl and 2-hydroxyethyl side chains of such compound, however, do not correspond to the recited side chain which is formed from the compound (II) represented by the formula (1), $R^1 - X^1$, wherein R^1 represents a hydrocarbon group of 4 - 30 carbon atoms, and X^1 represents glycidyl ether, epoxy, isocyanate, (meth)acrylate or halogenated alkyl. *Teraji et al* simply has no disclosure of a polyamine compound comprising a side chain formed from such compound (II) represented by the formula (1), as is presently recited in claim 1.

As discussed in the instant specification, Applicants have discovered that an exemplary polyamine compound obtained by causing a polyamine compound (I) having a primary and/or secondary amino group to react with a compound (II) represented by the formula (1), for example, can exhibit excellent drying shrinkage reducing effects as well as improved fluidity and dispersibility. See specification at page 1, line 6-11, and page 4, lines 17-24. While not bound by any particular theory, it is believed that when the polyamine compound comprising the hydrophobic hydrocarbon group as a side chain is dissolved in water, such compound can, for example, contribute to lowering the surface tension, and consequently reduce drying shrinkage. See specification at page 7, line 30 to page 8, line 4; page 14, lines 4-12. By comparison, *Teraji et al* is not concerned at all with attaining a drying shrinkage

reducing effect by introduction of a particular side chain into a polyamine compound. As noted above, *Teraji et al* fails to disclose a polyamine compound obtained by causing a polyamine compound (I) having a primary and/or secondary amino group to react with a compound (II) represented by the formula (1), let alone that such polyamine compound can provide drying shrinkage reducing effects.

For at least the above reasons, it is apparent that *Teraji et al* fails to constitute an anticipation of independent claim 1. The dependent claims are allowable at least by virtue of their direct or indirect dependence from independent claim 1. Thus, a detailed discussion of the additional distinguishing features recited in the dependent claims is not set forth at this time.

Accordingly, for at least the above reasons, withdrawal of the above §102(b) rejection is respectfully requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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By:



Roger H. Lee
Registration No. 46317

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620